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## Guatemala

## Biotechnology

## Annual Report

## 2008

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**Report Highlights:**

The Ministry of Agriculture in Guatemala (MAGA) approved field trials for genetically modified (GMO) crops in 2004. In 2006, MAGA approved commercial production for export purposes requesting that companies carry out a risk analysis. Even though MAGA is open to GMOs, the Ministry of Natural Resources and Environment (MARN), which has final responsibility for approval, demands an environmental impact study, in addition to a risk analysis, which would lead to a more GMO-friendly environment. Both private sector and academia are lobbying with different sectors to effect reform.

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## Section I. Executive Summary

Major U.S. agricultural trade interests in Guatemala include animal feed and flours for human consumption. In 2007, Guatemala imported US\$115.5 million in coarse grains, mainly yellow corn for feed purposes. For human consumption, Guatemala imported US\$ 134.9 million in wheat and \$ 20.9 million in rice. Guatemala has no GMO regulation in place that can affect commodity imports. The main concern of the Guatemalan Government (GOG) is related to the planting of modified crops that could pose a potential risk for the biodiversity that the country takes pride in (Guatemala has been declared by the United Nations as a center of biodiversity for many species, including corn).

The Guatemalan biotechnology regulatory system allows the Ministry of Agriculture (MAGA) to approve field trials and commercial plantations (for export purposes only) of genetically modified (GM) crops, based on a risk analysis that producers must present. Unfortunately, the Ministry of Environment and Natural Resources (MARN) requires an environmental impact study, as part of its general protection law, which fails to include specific regulations for GM crops. This requirement has stopped farmers from adopting biotechnology, as environmental impact studies make the technology unprofitable.

The academic and private sector in Guatemala, together with MAGA, are working together to support MARN in adopting a science-based regulation for GM crops. MARN may eventually accept such collaboration. Monsanto recently bought Semillas, S.A., a well known supplier of high quality seed for farmers.

Guatemala is major supplier of vegetable seeds for the Central American Region. Recently, Guatemala was proposed as a supplier of white corn for the region. MAGA is already considering the possibility of designating zones where corn is not produced at the moment, for production of high yield GM corn. The proposal has not yet been formally made.

## Section II. Biotechnology Trade and Production

Guatemala does not produce any biotechnology crops. In 2004, MAGA approved field trials of the Yieldgard gene in corn for Lepidopteron resistance, and the Liberty gene in cotton for glufosinate resistance, which are both deregulated events in the U.S. Del Valle University developed ring-spot resistant papaya which has not received approval to be tested in the field, negatively impacting research on biotechnology.

Guatemala is a food deficient country. Most food aid has been well received by communities, including indigenous ones. There has been only one issue in which environmentalist activists denied the distribution of donated corn to recipient families. Donors found that activists spoke on behalf of their interests and not the communities, as later on, communities demanded the food, showing surprise that community "leaders" had opposed the food distribution.

## Section III. Biotechnology Policy

Ministerial Agreement 386-2006 allows for the commercial production of modified crops, for export purposes only. MAGA is responsible for approving risk analysis conducted by interested producers. The Agricultural Scientific Institute (ICTA) of MAGA is responsible for verifying on site protocols presented as part of the risk analysis. The regulation considers simplified procedures for deregulated events. The regulation, in general, is intended to promote rather than impede the production of GM crops.

MARN has no regulation in place to approve modified crops. This Ministry has a general law, which is mandatory for any commercial activity, including agriculture. The environmental law requires an impact study to approve any commercial operation. This law, given the expense of these studies, has impeded Guatemala adoption of biotechnology.

The main concern for officially adopting biotechnology in Guatemala is related to the historical and social relevance of corn. Corn is the main staple of the Guatemalan diet and considered sacred for Mayan and indigenous communities. Indigenous families pride themselves on their ability for self-sustainability based on low technology corn farming. Each year, indigenous farmers select the first grains of the harvest for the following crop. At the level of indigenous communities, there is a complete lack of understanding for technical improvement of crops; more open communities will accept fertilizer use, for which MAGA has a subsidy program. ICTA has developed high protein content corn seed, which has had a low acceptance in those communities due to the lack of understanding of the technology.

The Guatemalan Congress approved the Cartagena Protocol in September 2003 by Legislative Decree 44-03, which was published in the official newspaper, the Diario de Centro America, Volume CCLXXII N. 72, on 10/13/03. The Protocol took effect in January 2005. By the end of 2003, the Technical Office for Biodiversity (OTECBIO) executed the project GUA-02-G21 "Development of the National Biosafety Framework for Guatemala", financed by the United Nations Environmental Program (UNEP) and the Global Environment Facility (GEF) through the National Council of protected Areas (CONAP). The Framework is an over-reaching law that seeks to regulate all aspects of biotechnology research and commercialization. The initiative has a definite bias in favor of advocates of the "precautionary principle" and subjecting both live organisms as well as products derived from biotechnology origin to the same bureaucratic procedure. The initiative did not find support, either within Congress or from academia and the private sector.

Guatemala is member of the World Trade Organization (WTO) and participates actively in Codex. Codex guidelines in relation to biotechnology could affect trade, if enforced.

#### **Section IV. Marketing Issues**

In Guatemala there is considerable lack of education concerning biotechnology. There is a high illiteracy rate, especially within the indigenous population. This, together with extreme poverty, makes it difficult to educate this group on the benefits of biotechnology.

#### **Section V. Capacity Building and Outreach**

USDA, under the Embassy Science Fellowship, Cochran, and Bureau of Economic, Energy, and Business Affairs Biotech Outreach Programs, has carried out various activities to promote biotechnology adoption in Guatemala. The FAS has brought Dr. Wayne Parrott from the University of Georgia, on a yearly basis as speaker for various Ministries and agencies of the GOG. Kitty Cardwell, from CSREES/USDA, Hector Flores from Texas State University of San Marcos, and Madelyn Spirnak from State, have also addressed the Guatemalan audience in relation to biotechnology adoption.

In August 2008, FAS/USDA is taking a high level official delegation, including leaders from the private sector, to visit the Farm Progress Show in Boone, Iowa. The trip will also include a visit to Nebraska and Washington, D.C. The Public and Affairs Section of the Embassy, together with FAS/USDA is also organizing a visit to the Farm Progress Show, for well known Guatemalan journalists with the objective of raising their consciousness level with respect to the benefits of biotechnology.